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EXAMINER

VU, THONG H

ART UNIT PAPER NUMBER

2142

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/006,001

Applicant(s)

ISLAM, MOHAMMED N.

Examiner

Thong H. Vu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 58-66 and 68-91 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 58-66 and 68-91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Claims 58-66,68-91 are pending.

### ***Response to Arguments***

2. Applicant's arguments, see pages 22-27, filed 11/22/05, with respect to the rejection(s) of claim(s) 58-66,68-91 under Acampora-Graves reference have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sabella-Lahat.

### ***Claim Rejections - 35 USC § 112***

3. Claims 58- 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It was unclear, vague and indefinite to "the **substantially** similar sets of optical signals ". Examiner considered they are the same.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 58-66,68-91 are rejected on the ground of nonstatutory double patenting over claim 1-73 of U. S. Patent No. 6,943,925 B1 ('925) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

- ('925) 1. A blazed grating based electro-optic switching system, comprising:  
a fiber optic tap operable to receive an optical signal having header information and payload information and to form a first signal copy comprising at least the header information and a second signal copy comprising at least the payload information;  
an electronic processor operable to receive the first signal copy and to perform electronic processing on the header information; and  
an array of blazed grating based optical switch elements operable to receive the first and second signal copies and to perform an optical switching operation on the first and second signal copies.
4. (Application) 58. A method of routing optical signals, comprising:  
communicating to a star switching fabric a plurality of optical signals each having a wavelength;  
communicating from the star switching fabric a plurality of substantially similar sets of the optical signals;  
receiving one of the plurality of substantially similar sets of optical signals at a plurality of tunable filters associated with a single output link from a router;  
processing one of the optical signals received having primarily a first wavelength using a first tunable filter of the plurality of tunable filters tuned to the first wavelength ;  
tuning a second tunable filter of the plurality of tunable filters to a second wavelength while the first tunable filter processes the optical signal having primarily the first wavelength;  
and  
communicating the optical signal having primarily the first wavelength toward the output link associated with the plurality of tunable filters.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims are 58-66,68,70-78,80-91 rejected under 35 U.S.C. 102(e) as being anticipated by Sabella et al [5,739,935].

5. As per claim 58, Sabella discloses a method of routing optical signals, comprising:

communicating to a star switching fabric a plurality of optical signals each having a wavelength; communicating from the star switching fabric a plurality of **substantially** similar sets of the optical signals [Sabella, optical cross-connect, abstract, Fig 1, star coupler, col 6 lines 46-62];

receiving one of the plurality of **substantially** similar sets of optical signals at a

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plurality of tunable filters associated with a single output link (i.e.: multiplex) from a router [Sabella, a plurality of tunable filters, col 11 lines 20-34; col 12 lines 24-41, WDM, col 6 lines 33-45];

processing one of the optical signals received having primarily a first wavelength using a first tunable filter of the plurality of tunable filters tuned to the first wavelength ; tuning a second tunable filter of the plurality of tunable filters to a second wavelength while the first tunable filter processes the optical signal having primarily the first wavelength [Sabella, the f0 and f1 wavelength, col 11 lines 20-33]; and

communicating the optical signal having primarily the first wavelength toward the output link associated with the plurality of tunable filters [Sabella, each output connected to on of the tunable filters, col 12 lines 20-36].

6. As per claim 59, Sabella discloses tuning a second tunable filter of the plurality of tunable filters to a second wavelength comprises at least substantially completing tuning of the second filter before the first filter completes processing of the optical signal having primarily the first wavelength [Sabella, the f0 and f1 wavelength, col 11 lines 20-33].

7. As per claim 60, Sabella discloses substantially communicating the optical signal having primarily the first wavelength; and substantially rejecting optical signals received from the star switching fabric having primarily wavelengths other than the first wavelength [Sabella, the f0 and f1 wavelength, col 11 lines 20-33]

8. As per claim 61 Sabella discloses after processing the optical signal having primarily the first wavelength, receiving another set of substantially similar optical signals; and processing one of the another set of optical signals received having primarily the second wavelength using the second tunable filter of the plurality of tunable filters tuned to the second wavelength [Sabella, the  $f_0$  and  $f_1$  wavelength, col 11 lines 20-33].

9. Claims 62,65,68,70,71,83 contain the similar limitation set forth in claim 58. Therefore claims 62,65,68,70,71,83 are rejected for the same rationale set forth in claim 58.

10. As per claim 63, Sabella discloses at least substantially completing tuning of the second optical transmitter before the first optical transmitter completes generation of the optical router signal having primarily the first wavelength as inherent feature of wavelength filters [Sabella, a plurality of tunable filters, col 11 lines 20-34;].

11. As per claim 64, Sabella discloses after generating the optical router signal having primarily the first wavelength at the first optical transmitter, generating an optical router signal having primarily a second wavelength at the second optical transmitter tuned to the second wavelength [Sabella, a plurality of tunable filters, col 11 lines 20-34].

12. As per claim 66, Sabella discloses the payload and having the first duration [Sabella, servicing period, col 13 lines 62]; and communicating the output optical packet from the router toward the destination element [Sabella, output port, col 14 lines 35-56].
13. Claim 71 contains the similar limitation set forth in claim 70. Therefore claim 71 is rejected for the same rationale set forth in claim 70.
14. As per claim 72 Sabella discloses a splitter [Sabella, splitter, Fig 9].
15. As per claim 73 Sabella discloses a splitter separate an input optical signal into 16 or more output signals [Sabella, splitter, Fig 9].
16. As per claim 74 Sabella discloses a different wavelength [Sabella, six wavelengths, col 8 line 30].
17. As per claim 75 Sabella discloses an optical amplifier [Sabella, amplifiers 58, Fig 9]
18. As per claim 76 Sabella discloses a plurality of receivers [Sabella, Fig 9]
19. As per claim 77 Sabella discloses a plurality of tunable filters [Sabella, filters 62, Fig 9]
20. As per claim 78 Sabella discloses a time division multiplexed frame [Sabella, WDM, col 6 line 33]
21. As per claim 80 Sabella discloses a round robin scheduling algorithm [Sabella, star coupler, col 6 line 60].



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22. As per claim 81 Sabella discloses combining the packets and converting the signal [Sabella, wavelength converter, col 7 lines 37]

23. As per claim 82 Sabella discloses combining the packets into aggregated frame for the star fabric [Sabella, star coupler, col 6 line 60]

24. Claims 83-91 contain the similar limitation set forth in claims 71-76,78,80.

Therefore claims 83-91 is rejected for the same rationale set forth in claims 71-76,78, 80.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 69,79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabella [5,739,935] in view of Lahat et al [Lahat, 6,417,944 B1].

25. As per claim 69, Sabella-Graves disclose receiving the aggregated frame from the selected tunable filter; generating from the aggregated frame a plurality of output optical packets each comprising one of the payloads of the input optical packets; and communicating the plurality of output optical packets from the router toward the destination element [see rejection claim 58].

However Sabella does not explicitly detail using "an identifier of the destination element"

In the same endeavor, Lahat discloses ATM switch utilizing optical wave Division Multiplexing (WDM) [Lahat, abstract] wherein the desired destination output port is determined based on the destination ATM address [Lahat, col 6 lines 54-64].

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the destination identifier or address as taught by Lahat into the Sabella's apparatus in order to utilize the switching devices. Doing so would provide a satisfy demand for increasing levels bandwidth by using the ATM switches in the optic network.

26. As per claim 79 Sabella-Lahat disclose TCP and IP packets [Lahat, TCP/IP, col 1 line 18].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thong Vu*, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 6:00AM- 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Andrew Caldwell*, can be reached at (571) 272-3868. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval IPAIRI system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Thong Vu*  
*Primary Examiner*  
*Art Unit 2142*

